1.0 Introduction

The purpose of this memorandum is to document the procedures used to develop the Traffic Analysis Zone (TAZ) system for the Southwest Georgia Interstate Travel Demand Model. A traffic analysis zone is a geographical area that encompasses residential, social and economic activates. Each zone represents an origin and destination for a trip within the model area, and contains aggregated socioeconomic (SE) data which is used to estimate the trip generation (productions and attractions) for that zone.

The development of the TAZ system for the Southwest Georgia Interstate model required the collection of the GIS geographic boundary files, census data, and employment data. The major data sources used were the U.S Census data, Census TIGER files, Bureau of Economic Analysis (BEA), and Georgia Department of Labor (DOL). The boundaries of TAZs are built to be consistent with the geographic boundaries of the Census data. Since the model primarily focuses on the Southwest Georgia region, the size of the geographic area of the TAZs varies according to their proximity to the study area; the further the TAZs are located away from Southwest Georgia, the larger the sizes of the TAZs are. The design of the TAZ system includes several layers of sub-TAZ systems surrounding the Southwest Georgia study area. The TAZ system not only includes the individual geographic locations of the TAZs, but also contains the socioeconomic data associated with the zones. The allocation of the SE data into the different layers of the TAZs is based on the Census 2000 data distribution patterns. This distribution pattern is applied to the 2006 SE data to produce the model base year zonal SE data. This documentation of the TAZ development is organized in the following sections.

- Development of TAZ Boundaries
- Allocation of SE Data

1.1 Development of TAZ Boundaries

U.S. Census TIGER/Line files were the primary GIS data source for the development of the TAZ boundaries. The Census data used in developing the TAZ boundaries are:

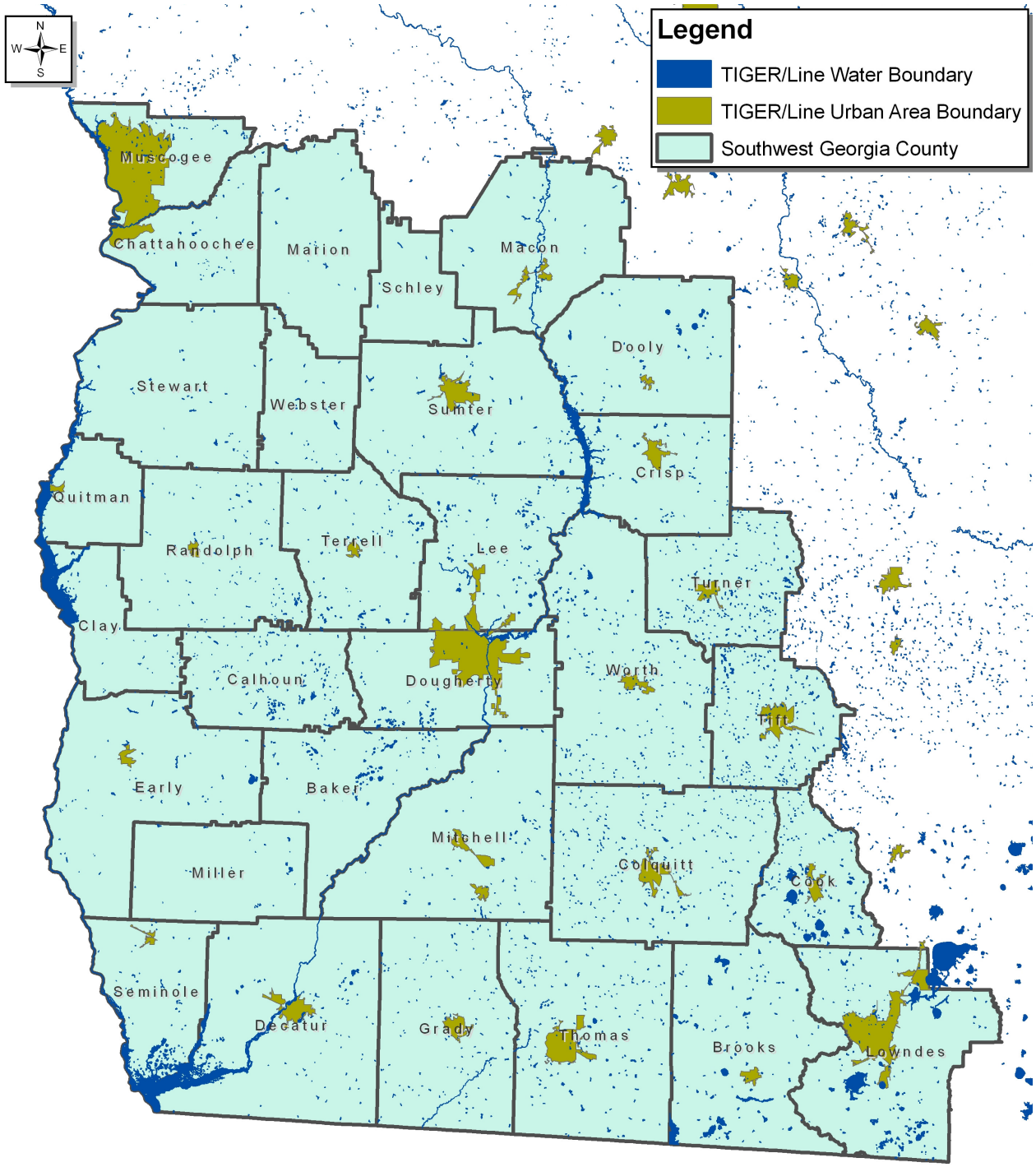
- U.S. Counties
- U.S. Census Tract
- U.S. Census Blocks
- Water Boundaries
- Urban Area Boundaries
- TIGER/Line Street centerline

The water and urban area boundary files were used to establish the natural boundaries for TAZs, and the TIGER/Line street line file was used to check for any street delineation that might be missed by both the National Highway Planning Network (NHPN) and the GDOT Road Characteristic (RC) centerline network. 2000 U.S. census data is included in the census tract, census block, and county files. The Census information from these files facilitated the allocation of the SE data discussed in the following section. An example of the Southwest Georgia boundary file in a GIS shapefile is shown in Figure 1.1.1.

Since the purpose of the Southwest Georgia Interstate model is to provide the estimates of travel patterns within and across the Southwest Georgia study area, the TAZ system was designed to reflect this intent of the model implementation. The design of the TAZ system required more detailed zonal structure in areas within and surrounding the Southwest Georgia study area, while less detail in the zonal definitions for TAZs farther away from the study area was acceptable. Therefore, it was determined that several different geographic layers were necessary to reflect the level of detail needed by the model. The five (5) proposed major TAZ structure levels are listed below, and the Southwest TAZ layout structure is shown in Figure 1.1.2, which displays the extent for each of the TAZ geographic layers.

- Southwest Georgia Study Area (32 county area)
- Adjacent Census Tracts (Buffer region immediately surrounding the study area)
- Surrounding Counties (Surrounding counties outside the census tract buffer region)
- Surrounding Regional Planning Council (RPC) regions
- Surrounding States

Within the Southwest Georgia study area, census tracts were used as the basic building blocks on which subdivisions were created to develop the finer traffic analysis zones. The boundary used in subdividing a census tract was the model network centerline alignment, as well as the roadway centerlines in the TIGER/Line file. The urban and water boundaries were also used to assist in defining the TAZ boundaries. The census tracts are building blocks of county definitions. As a rule, census tract boundaries do not violate a county boundary. Therefore, the TAZs created by the subdividing the census tracts also conform to county boundaries and do not violate existing overlapping MPO TAZ boundaries. The size of the geographic area of a TAZ is smaller within and around the urbanized areas. The TAZ area increases in size the further away it is located from urbanized areas. This parallels the definitions of census tracts in that census tracts are usually smaller in urbanized areas where population density is high and the roadway system is complex and more detailed. The subdivision of the census tracts created 933 traffic analysis zones within the



Source: Census TIGER/Line (2000)

Southwest Georgia Interstate Study

Natural TAZ Boundary

TAZ Development	Figure 1.1.1

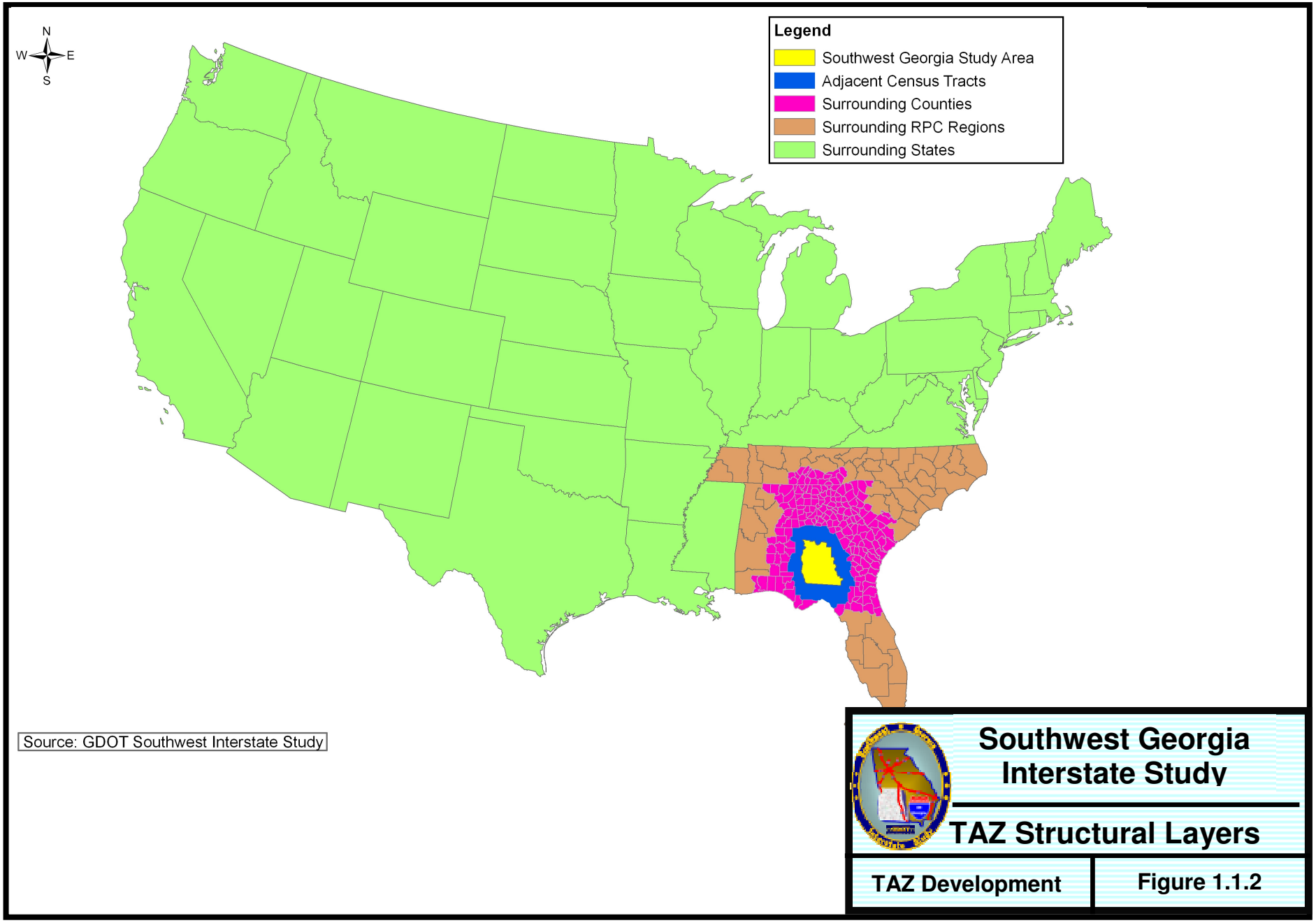
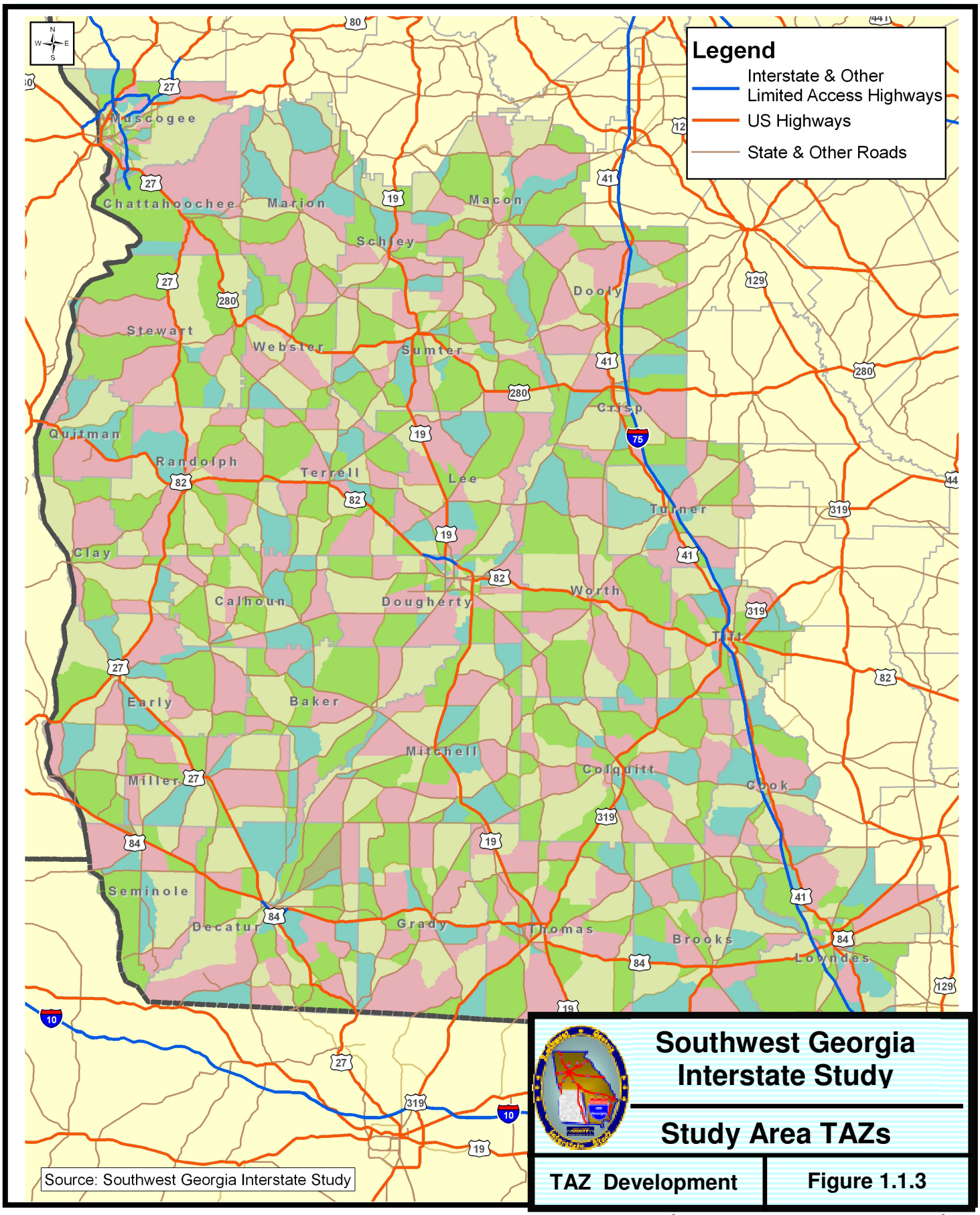

N
W
E
S
Legend
Southwest Georgia Study Area
Adjacent Census Tracts
Surrounding Counties
Surrounding RPC Regions
Surrounding States
Source: GDOT Southwest Interstate Study
Southwest Georgia Interstate Study
TAZ Structural Layers
TAZ Development
Figure 1.1.2

Table 1.1.1
TAZs within the Southwest Georgia Study Area

County FIPS Code	County Name	Start Zone Number	End Zone Number	Total Zones
13215	Muscogee	1	74	74
13053	Chattahoochee	75	81	7
13197	Marion	82	99	18
13249	Schley	100	115	16
13193	Macon	116	140	25
13093	Dooly	141	165	25
13259	Stewart	166	181	16
13307	Webster	182	196	15
13261	Sumter	197	245	49
13081	Crisp	246	268	23
13239	Quitman	269	275	7
13243	Randolph	276	302	27
13273	Terrell	303	330	28
13177	Lee	331	354	24
13287	Turner	355	374	20
13061	Clay	375	386	12
13037	Calhoun	387	411	25
13095	Dougherty	412	474	63
13321	Worth	475	506	32
13277	Tift	507	545	39
13099	Early	546	571	26
13201	Miller	572	589	18
13007	Baker	590	610	21
13205	Mitchell	611	646	36
13071	Colquitt	647	694	48
13075	Cook	695	713	19
13253	Seminole	714	726	13
13087	Decatur	727	770	44
13131	Grady	771	802	32
13275	Thomas	803	849	47
13027	Brooks	850	881	32
13185	Lowndes	882	933	52



Southwest Georgia Interstate Study

Study Area TAZs

TAZ Development	Figure 1.1.3

the census tracts are used as the TAZ boundaries. The coverage of the Adjacent Census Tract buffer is shown in the Figure 1.1.4. The delineation of these buffer zones provides sufficient level of detail to ensure that the travel patterns into and out of the Southwest Georgia study area will be adequately represented in the model application. The roadway alignment was not critical in delineating the TAZ boundaries in this TAZ layer.

Table 1.1.2
TAZs within Adjacent Census Tract Buffer Layer Surrounding Study Area

State	County FIPS Code	County Name	Start Zone Number	End Zone Number	Total Zones
Georgia	13285	Troup	934	946	13
	13199	Meriwether	947	952	6
	13231	Pike	953	956	4
	13171	Lamar	957	959	3
	13207	Monroe	960	962	3
	13145	Harris	963	966	4
	13263	Talbot	967	969	3
	13293	Upson	970	976	7
	13269	Taylor	977	979	3
	13079	Crawford	980	981	2
	13021	Bibb	982	1022	41
	13225	Peach	1023	1027	5
	13153	Houston	1028	1046	19
	13289	Twiggs	1047	1048	2
	13023	Bleckley	1049	1051	3
	13235	Pulaski	1052	1054	3
	13091	Dodge	1055	1060	6
	13315	Wilcox	1061	1064	4
	13271	Telfair	1065	1068	4
	13017	Ben Hill	1069	1073	5
	13155	Irwin	1074	1075	2
	13069	Coffee	1076	1083	8
	13019	Berrien	1084	1089	6
	13003	Atkinson	1090	1092	3
	13173	Lanier	1093	1094	2
	13065	Clinch	1095	1096	2
	13101	Echols	1097	1098	2

Table 1.1.2 (continued)
TAZs within Adjacent Census Tract Buffer Layer Surrounding Study Area

State	County FIPS Code	County Name	Start Zone Number	End Zone Number	Total Zones
Alabama	01017	Chambers	1099	1107	9
	01081	Lee	1108	1128	21
	01113	Russell	1129	1140	12
	01005	Barbour	1141	1149	9
	01045	Dale	1150	1163	14
	01067	Henry	1164	1169	6
	01069	Houston	1170	1190	21
Florida	12063	Jackson	1191	1201	11
	12013	Calhoun	1202	1204	3
	12039	Gadsden	1205	1213	9
	12073	Leon	1214	1261	48
	12065	Jefferson	1262	1263	2
	12079	Madison	1264	1268	5
	12047	Hamilton	1269	1271	3
	12077	Liberty	1272	1273	2
	12129	Wakulla	1274	1277	4
	12123	Taylor	1278	1281	4
	12067	Lafayette	1282	1283	2
	12121	Suwannee	1284	1289	6

To define the next TAZ buffer layer which surrounds the Adjacent Census Tract buffer layer, county boundaries are used as the boundaries for the TAZs. TAZs in this layer represent all activities occurring within a county at a single point. The trip movements within and among the counties in this layer are relatively insignificant to the model application, because these travel patterns do not directly influence the travel within and across the study area. This TAZ layer involves the counties from all six (6) States as shown in Figure 1.1.5. Figure 1.1.5 shows that the counties contained within this TAZ layer create an outer buffer region surrounding the Adjacent Census Tract buffer layer discussed previously. Portions of the six (6) southeastern States are included. The number of counties involved is shown in Table 1.1.3. Georgia has the most counties represented. The reason to include all of the remaining Georgia counties and counties in the surrounding states is that the Southwest Georgia model could be expanded to a Georgia statewide model in the future without major reorganization of the TAZ boundaries. The layout of the Counties buffer creates a sufficient room for the model expansion. Table 1.1.4 shows the TAZs included in the Counties buffer region. There is a total of 188 zones created in this TAZ layer.

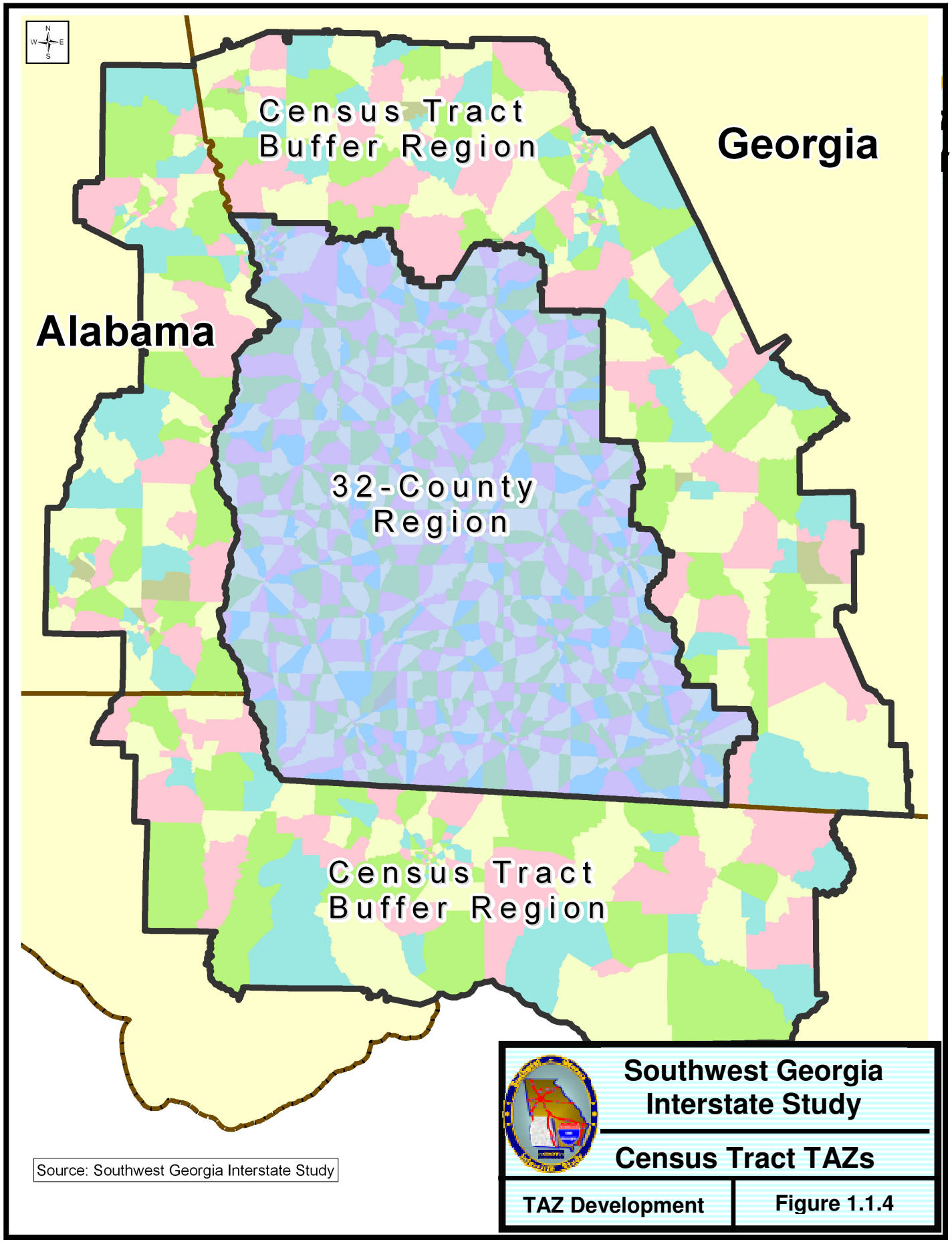

Census Tract
Buffer Region
Georgia
Alabama
32-County
Region
Census Tract
Buffer Region
Source: Southwest Georgia Interstate Study
Southwest Georgia
Interstate Study
Census Tract TAZs
TAZ Development
Figure 1.1.4

Table 1.1.3
Number of Counties Involved in the Southeastern States

State	Number of Counties
Georgia	100
Tennessee	11
North Carolina	7
South Carolina	22
Florida	22
Alabama	26

Table 1.1.4
TAZs within County Buffer Layer

State	County FIPS Code	County Name	Zone Number
Georgia	13295	Walker	1291
	13047	Catoosa	1292
	13313	Whitfield	1293
	13213	Murray	1294
	13111	Fannin	1295
	13291	Union	1296
	13281	Towns	1297
	13241	Rabun	1298
	13055	Chattooga	1299
	13129	Gordon	1300
	13123	Gilmer	1301
	13227	Pickens	1302
	13085	Dawson	1303
	13187	Lumpkin	1304
	13311	White	1305
	13137	Habersham	1306
	13257	Stephens	1307
	13115	Floyd	1308
	13015	Bartow	1309
	13057	Cherokee	1310
	13117	Forsyth	1311
	13139	Hall	1312
	13011	Banks	1313
	13119	Franklin	1314

Table 1.1.4 (continued)
TAZs within County Buffer Layer

State	County FIPS Code	County Name	Zone Number
Georgia	13147	Hart	1315
	13233	Polk	1316
	13223	Paulding	1317
	13067	Cobb	1318
	13121	Fulton	1319
	13135	Gwinnett	1320
	13013	Barrow	1321
	13157	Jackson	1322
	13195	Madison	1323
	13105	Elbert	1324
	13143	Haralson	1325
	13045	Carroll	1326
	13097	Douglas	1327
	13089	DeKalb	1328
	13247	Rockdale	1329
	13297	Walton	1330
	13219	Oconee	1331
	13059	Clarke	1332
	13221	Oglethorpe	1333
	13317	Wilkes	1334
	13181	Lincoln	1335
	13149	Heard	1336
	13077	Coweta	1337
	13113	Fayette	1338
	13063	Clayton	1339
	13151	Henry	1340
	13217	Newton	1341
	13211	Morgan	1342
	13133	Greene	1343
	13265	Taliaferro	1344
	13189	McDuffie	1345
	13073	Columbia	1346
	13255	Spalding	1347
	13035	Butts	1348
	13159	Jasper	1349
	13237	Putnam	1350
	13141	Hancock	1351
	13301	Warren	1352
	13169	Jones	1353

Table 1.1.4 (continued)
TAZs within County Buffer Layer

State	County FIPS Code	County Name	Zone Number
Georgia	13009	Baldwin	1354
	13303	Washington	1355
	13125	Glascock	1356
	13163	Jefferson	1357
	13245	Richmond	1358
	13033	Burke	1359
	13319	Wilkinson	1360
	13167	Johnson	1361
	13107	Emanuel	1362
	13165	Jenkins	1363
	13251	Screven	1364
	13175	Laurens	1365
	13283	Treutlen	1366
	13043	Candler	1367
	13031	Bulloch	1368
	13103	Effingham	1369
	13309	Wheeler	1370
	13209	Montgomery	1371
	13279	Toombs	1372
	13267	Tattnall	1373
	13109	Evans	1374
	13029	Bryan	1375
	13051	Chatham	1376
	13161	Jeff Davis	1377
	13001	Appling	1378
	13305	Wayne	1379
	13183	Long	1380
	13179	Liberty	1381
	13005	Bacon	1382
	13229	Pierce	1383
	13025	Brantley	1384
	13191	McIntosh	1385
	13299	Ware	1386
	13127	Glynn	1387
	13049	Charlton	1388
	13039	Camden	1389

Table 1.1.4 (continued)
TAZs within County Buffer Layer

State	County FIPS Code	County Name	Zone Number
Tennessee	47115	Marion	1390
	47065	Hamilton	1391
	47011	Bradley	1392
	47139	Polk	1393
	47061	Grundy	1394
	47153	Sequatchie	1395
	47007	Bledsoe	1396
	47143	Rhea	1397
	47121	Meigs	1398
	47107	McMinn	1399
	47123	Monroe	1400
North Carolina	37039	Cherokee	1401
	37043	Clay	1402
	37113	Macon	1403
	37099	Jackson	1404
	37075	Graham	1405
	37173	Swain	1406
	37087	Haywood	1407
South Carolina	45073	Oconee	1408
	45007	Anderson	1409
	45001	Abbeville	1410
	45065	McCormick	1411
	45037	Edgefield	1412
	45003	Aiken	1413
	45011	Barnwell	1414
	45005	Allendale	1415
	45049	Hampton	1416
	45053	Jasper	1417
	45013	Beaufort	1418
	45077	Pickens	1419
	45045	Greenville	1420
	45059	Laurens	1421
	45047	Greenwood	1422
	45081	Saluda	1423
	45075	Orangeburg	1424
	45009	Bamberg	1425
	45029	Colleton	1426
	45083	Spartanburg	1427
	45021	Cherokee	1428
	45017	Calhoun	1429

Table 1.1.4 (continued)
TAZs within County Buffer Layer

State	County FIPS Code	County Name	Zone Number
Florida	12089	Nassau	1430
	12003	Baker	1431
	12023	Columbia	1432
	12031	Duval	1433
	12109	St. Johns	1434
	12019	Clay	1435
	12007	Bradford	1436
	12125	Union	1437
	12035	Flagler	1438
	12107	Putnam	1439
	12001	Alachua	1440
	12041	Gilchrist	1441
	12029	Dixie	1442
	12037	Franklin	1443
	12045	Gulf	1444
	12005	Bay	1445
	12133	Washington	1446
	12059	Holmes	1447
	12131	Walton	1448
	12091	Okaloosa	1449
	12113	Santa Rosa	1450
	12033	Escambia	1451
Alabama	01061	Geneva	1452
	01031	Coffee	1453
	01109	Pike	1454
	01011	Bullock	1455
	01087	Macon	1456
	01123	Tallapoosa	1457
	01111	Randolph	1458
	01029	Cleburne	1459
	01019	Cherokee	1460
	01049	DeKalb	1461
	01071	Jackson	1462
	01039	Covington	1463
	01041	Crenshaw	1464
	01013	Butler	1465
	01101	Montgomery	1466
	01085	Lowndes	1467

Table 1.1.4 (continued)
TAZs within County Buffer Layer

State	County FIPS Code	County Name	Zone Number
Alabama	01051	Elmore	1468
	01001	Autauga	1469
	01037	Coosa	1470
	01027	Clay	1471
	01121	Talladega	1472
	01015	Calhoun	1473
	01055	Etowah	1474
	01095	Marshall	1475
	01089	Madison	1476
	01083	Limestone	1477

The TAZ layer by sub-census tract, census tract, and counties extends into most of the six (6) southeastern states. This creates a good geographic distribution for the southwest TAZ system. However, to be able to use the model to estimate Interstate travel patterns more accurately, the areas for the Regional Planning Councils (RPC) were used to fill the void in the rest of the five southeastern states. The RPC boundaries were collected from the regional planning councils in the surrounding states. Each RPC is an entity which includes several counties. To create the RPC boundaries, counties belonging to each RPC were identified and then aggregated. This created a total of 44 RPC regions surrounding the County TAZ layer. The number of RPC regions used in each of the surrounding states is shown in Table 1.1.5, and the detail for zone numbering is shown Table1.1.6. Figure 1.1.6 shows the geographic extent of the RPC region in the TAZ system.

Table 1.1.5
Number of Regional Planning Councils in the Southeastern States

State	Number of RPCs
Tennessee	9
North Carolina	16
South Carolina	6
Florida	7
Alabama	6


Tennessee
North Carolina
South Carolina
Alabama
Georgia
Florida
Source: Southwest Georgia Interstate Study
Southwest Georgia Interstate Study
County TAZs
TAZ Development
Figure 1.1.5

Table 1.1.6
TAZs within RPC Buffer Layer

State	State FIPS Code	RPC Name	Zone Number
Alabama	01000	RPC Alabama 1	1478
	01000	RPC Alabama 2	1479
	01000	RPC Alabama 3	1480
	01000	RPC Alabama 4	1481
	01000	RPC Alabama 5	1482
	01000	RPC Alabama 6	1483
Tennessee	47000	RPC Tennessee 1	1484
	47000	RPC Tennessee 2	1485
	47000	RPC Tennessee 3	1486
	47000	RPC Tennessee 4	1487
	47000	RPC Tennessee 5	1488
	47000	RPC Tennessee 6	1489
	47000	RPC Tennessee 7	1490
	47000	RPC Tennessee 8	1491
	47000	RPC Tennessee 9	1492
North Carolina	37000	RPC North Carolina 1	1493
	37000	RPC North Carolina 2	1494
	37000	RPC North Carolina 3	1495
	37000	RPC North Carolina 4	1496
	37000	RPC North Carolina 5	1497
	37000	RPC North Carolina 6	1498
	37000	RPC North Carolina 7	1499
	37000	RPC North Carolina 8	1500
	37000	RPC North Carolina 9	1501
	37000	RPC North Carolina 10	1502
	37000	RPC North Carolina 11	1503
	37000	RPC North Carolina 12	1504
	37000	RPC North Carolina 13	1505
	37000	RPC North Carolina 14	1506
	37000	RPC North Carolina 15	1507
	37000	RPC North Carolina 16	1508
South Carolina	45000	RPC South Carolina 1	1509
	45000	RPC South Carolina 2	1510
	45000	RPC South Carolina 3	1511
	45000	RPC South Carolina 4	1512
	45000	RPC South Carolina 5	1513
	45000	RPC South Carolina 6	1514

Table 1.1.6 (continued)
TAZs within RPC Buffer Layer

State	State FIPS Code	RPC Name	Zone Number
Florida	12000	RPC Florida 1	1515
	12000	RPC Florida 2	1516
	12000	RPC Florida 3	1517
	12000	RPC Florida 4	1518
	12000	RPC Florida 5	1519
	12000	RPC Florida 6	1520
	12000	RPC Florida 7	1521

The TAZ structure was designed to focus on the analysis and evaluation of travel patterns in the Southwest Georgia study area and throughout the five southeastern states. Travel volumes in regions outside the five southeastern states does not significantly impact travel patterns within the Southwest Georgia study area. Therefore, for the remaining states, including the District of Columbia, the state boundaries were used as the TAZ boundaries for this layer. This created 43 large zones as shown in Figure 1.1.7. The assigned zone number for the state TAZs is shown in Table 1.1.7.

Table 1.1.7
TAZs for States

State FIPS Code	State	Zone Number
23000	Maine	1522
33000	New Hampshire	1523
50000	Vermont	1524
25000	Massachusetts	1525
44000	Rhode Island	1526
09000	Connecticut	1527
36000	New York	1528
34000	New Jersey	1529
42000	Pennsylvania	1530
10000	Delaware	1531
24000	Maryland	1532
51000	Virginia	1533
54000	West Virginia	1534
39000	Ohio	1535

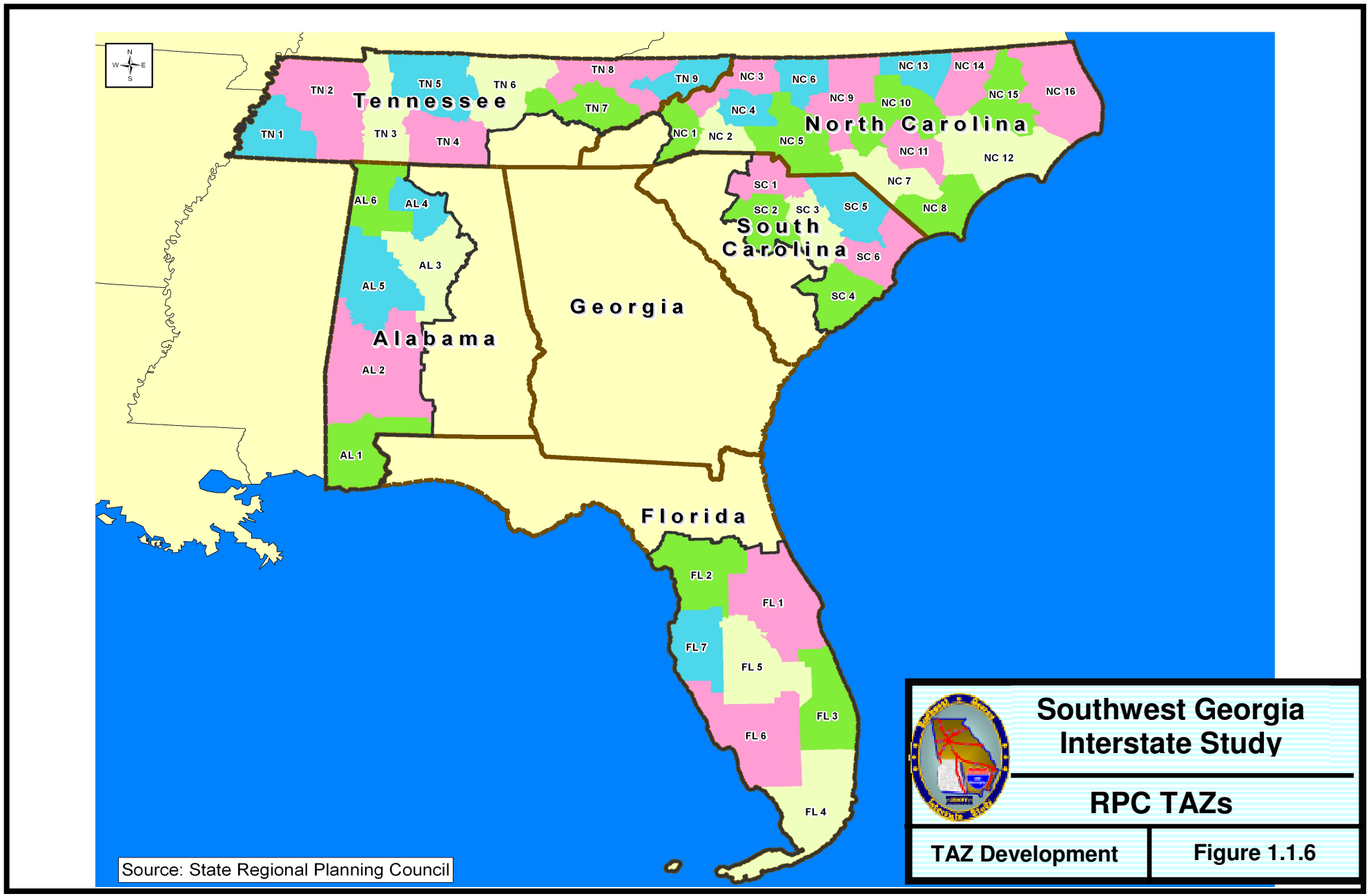

Tennessee
North Carolina
South Carolina
Georgia
Alabama
Florida
TN 1
TN 2
TN 3
TN 4
TN 5
TN 6
TN 7
TN 8
TN 9
NC 1
NC 2
NC 3
NC 4
NC 5
NC 6
NC 7
NC 8
NC 9
NC 10
NC 11
NC 12
NC 13
NC 14
NC 15
NC 16
SC 1
SC 2
SC 3
SC 4
SC 5
SC 6
AL 1
AL 2
AL 3
AL 4
AL 5
AL 6
FL 1
FL 2
FL 3
FL 4
FL 5
FL 6
FL 7
Source: State Regional Planning Council
Southwest Georgia Interstate Study
RPC TAZs
TAZ Development
Figure 1.1.6

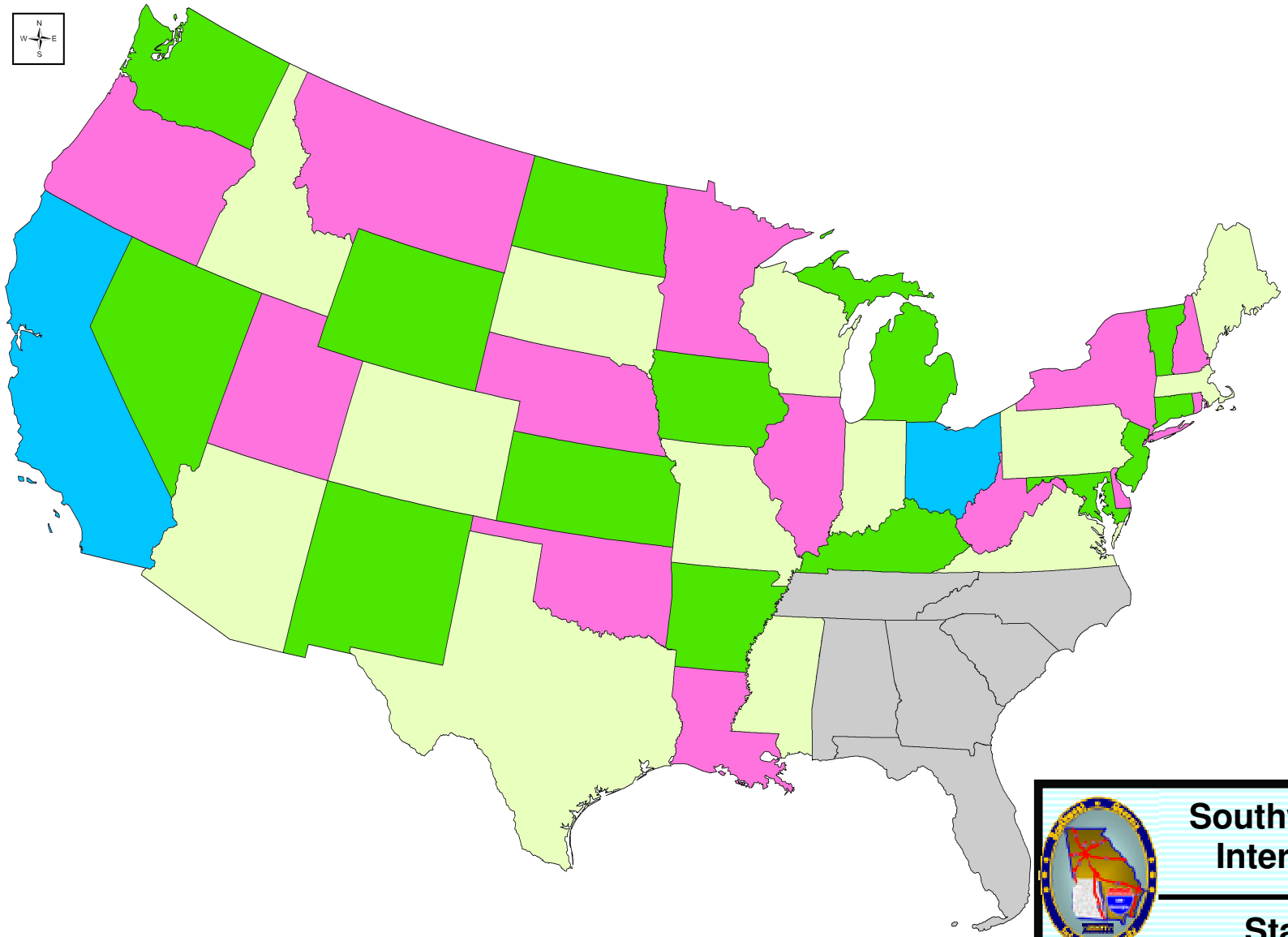
Table 1.1.7 (continued)
TAZs for States

State FIPS Code	State	Zone Number
26000	Michigan	1536
18000	Indiana	1537
21000	Kentucky	1538
17000	Illinois	1539
55000	Wisconsin	1540
28000	Mississippi	1541
22000	Louisiana	1542
05000	Arkansas	1543
29000	Missouri	1544
19000	Iowa	1545
27000	Minnesota	1546
48000	Texas	1547
40000	Oklahoma	1548
20000	Kansas	1549
31000	Nebraska	1550
46000	South Dakota	1551
38000	North Dakota	1552
35000	New Mexico	1553
08000	Colorado	1554
56000	Wyoming	1555
30000	Montana	1556
04000	Arizona	1557
49000	Utah	1558
16000	Idaho	1559
06000	California	1560
32000	Nevada	1561
41000	Oregon	1562
53000	Washington	1563
11000	District of Columbia	1564

Table 1.1.8 lists the total number of TAZs for each TAZ layer. A total of 1,564 zones were created as a result of the methodology. The closer the TAZ layer to the southwest Georgia is, the denser the TAZs are designed.

Table 1.1.8
Number of TAZs by Layer

TAZ Layer	Number of TAZs
Southwest Georgia Study Area (32-county study area)	933
Adjacent Census Tracts (Buffer region surrounding the 32-county study area)	356
Surrounding Counties (Surrounding counties outside the buffer region)	188
Surrounding Regional Planning Council (RPC) regions	44
Surrounding States	43
Grand Total	1,564



Source: Southwest Georgia Interstate Study

Southwest Georgia Interstate Study

State TAZs

TAZ Development	Figure 1.1.7

1.2 TAZ Socio-Economic Data Allocations

The development of the socioeconomic (SE) data is documented in the *Socioeconomic and Demographic Technical Memorandum*. This section only presents the methodology used to populate the SE data into the TAZs. The TAZ system creates geographic boundaries for the distribution of the SE data. A procedure had to be developed to allocate the SE data from different census geographic data unit into the individual TAZs. The process of allocating SE data included aggregating the available SE data and then distributing the data in a manner consistent with the existing 2000 Census data organization. The SE data variables are population, households, and total employment. These variables are used in the trip generation component of the model application to develop trip production and attraction estimates.

For the TAZ layers where the boundaries of the TAZs are smaller than county boundaries, the disaggregation method starts with county level data since current and future population and household estimates are available only at the county level. The existing 2000 Census data was used to distribute the data from county level to TAZ level to obtain the 2006 base year and 2040 future year TAZ level data. This disaggregation method was used for the Southwest Georgia study area as well as the surrounding census tract buffer layer. The TAZs located farther outside the census tract buffer layer encompass geographic areas larger than counties. Therefore, a simple aggregation method was used to develop the TAZ level SE data for those layers.

1.2.1 Census Data

The 2000 U.S. Census provides the population and household data at census tract, block group, block, as well as at county levels. The data structure is consistent with the TAZ system, since the TAZ boundaries were built following the census boundaries as previously discussed. Except for the TAZs located within the study area, all of the other TAZs are represented by geographic units greater than census tracts. Therefore, for regions outside the study area, the Census population and household data is directed aggregated and populated into the TAZs.

While TAZs located within the study area represent sub-units of census tracts, their boundaries were also designed to follow the roadway system. Since all of these TAZs can be aggregated into census tracts, the initial disaggregation method used the share of the size of the TAZ area relative to that of census tract to distribute the Census data. However, the results from the model run showed that the distribution of Census data by area share created an unreasonable population distribution, especially around the urbanized areas. Using the area share to distribute the SE data ignores the relative concentration of the population and household in a particular region. For example, larger TAZs do

not necessarily represent the areas where population and households should be concentrated. Population and households are usually clustered around, within and surrounding urban areas where smaller TAZs are located. An alternative to the area share method to distribute the SE data was to use the Census data at block level. The census block is the smallest geographic area in which the Census data is reported. There are over 32,000 census blocks within the study area which include 933 TAZs. One TAZ encompasses several census blocks. Therefore, population and household total of a TAZ can be obtained by summarizing the data of census blocks within the TAZ boundary. Since all of the TAZs can also be aggregated into counties, the share of the SE data of each TAZ relative to the county to which it belongs can be calculated. This method produces across the southwest Georgia study area a 2000 Census SE data distribution pattern which will be applied =to the 2006 county estimates to create the 2006 TAZ level SE data.

The census blocks are small polygons and those polygons are converted into shape points. The conversion to census block points is performed in the GIS environment where census block points can be readily identified and summarized by the TAZs to which they belong. The overlay of the TAZs with the census block points within the study area is shown in Figure 1.2.1.1. The distribution shares for population and household of each TAZ zone relative to the county total are calculated for the Census 2000 data. Table 1.2.1.1 shows the relative share of population and households for each TAZ and the county it belongs to. The relative shares were then applied to the 2006 county control totals to calculate the 2006 TAZ level SE data within the study area.

Table 1.2.1.1
Sample Distribution Share of SE Data

		County Total (Census 2000)		TAZ Total (Census 2000)		% Share of County	
TAZ ID	COUNTY	Population	Households	Population	Households	Population	Households
182	Webster	2,390	911	12	4	0.50%	0.40%
183	Webster	2,390	911	276	95	11.50%	10.40%
184	Webster	2,390	911	78	34	3.30%	3.70%
185	Webster	2,390	911	92	37	3.80%	4.10%
186	Webster	2,390	911	21	10	0.90%	1.10%
187	Webster	2,390	911	60	24	2.50%	2.60%
188	Webster	2,390	911	141	57	5.90%	6.30%
189	Webster	2,390	911	58	21	2.40%	2.30%
190	Webster	2,390	911	137	48	5.70%	5.30%
191	Webster	2,390	911	341	130	14.30%	14.30%
192	Webster	2,390	911	237	84	9.90%	9.20%
193	Webster	2,390	911	133	55	5.60%	6.00%
194	Webster	2,390	911	355	132	14.90%	14.50%
195	Webster	2,390	911	243	96	10.20%	10.50%
196	Webster	2,390	911	206	84	8.60%	9.20%

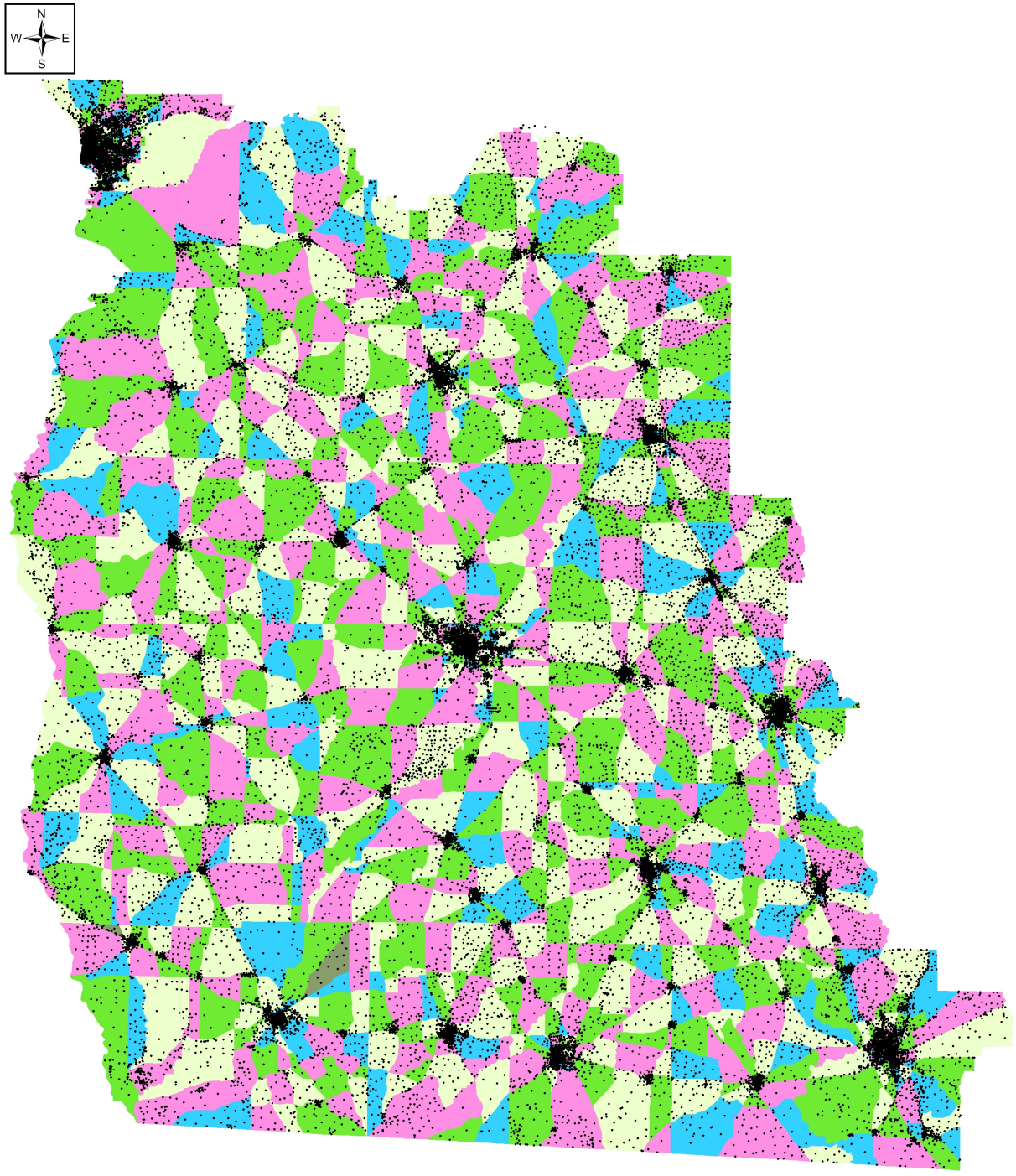
Table 1.2.1.1 (continued)
Sample Distribution Share of SE Data

TAZ ID	COUNTY	County Total (Census 2000)		TAZ Total (Census 2000)		% Share of County	
		Population	Households	Population	Households	Population	Households
100	Schley	3,766	1,435	231	92	6.10%	6.40%
101	Schley	3,766	1,435	110	40	2.90%	2.80%
102	Schley	3,766	1,435	404	155	10.70%	10.80%
103	Schley	3,766	1,435	100	35	2.70%	2.40%
104	Schley	3,766	1,435	62	23	1.60%	1.60%
105	Schley	3,766	1,435	28	11	0.70%	0.80%
106	Schley	3,766	1,435	479	192	12.70%	13.40%
107	Schley	3,766	1,435	195	69	5.20%	4.80%
108	Schley	3,766	1,435	195	82	5.20%	5.70%
109	Schley	3,766	1,435	71	28	1.90%	2.00%
110	Schley	3,766	1,435	309	115	8.20%	8.00%
111	Schley	3,766	1,435	402	143	10.70%	10.00%
112	Schley	3,766	1,435	101	39	2.70%	2.70%
113	Schley	3,766	1,435	765	284	20.30%	19.80%
114	Schley	3,766	1,435	84	29	2.20%	2.00%
115	Schley	3,766	1,435	230	98	6.10%	6.80%

Population and households data for TAZs in the surrounding census tracts buffer layer was developed in a similar manner. The share of 2000 population and households of the census tract relative to the county total was calculated. The share of each census tract was then applied to the 2006 county data to create the 2006 TAZ level data.

The 2000 Census data distribution pattern was not necessary to allocate the 2006 Census estimates for TAZs located in regions outside the southwest Georgia study area. For TAZs in the Surrounding Counties layer, the 2006 county level population and household data was directly used. For TAZs in Surrounding RPC regions layer, the 2006 county level estimates were aggregated into RPC, and for the TAZs as States, the 2006 Census estimates for States were used.

The resulting 2006 population and household density by TAZ are presented in Figure 1.2.1.2 and Figure 1.2.1.3 respectively.

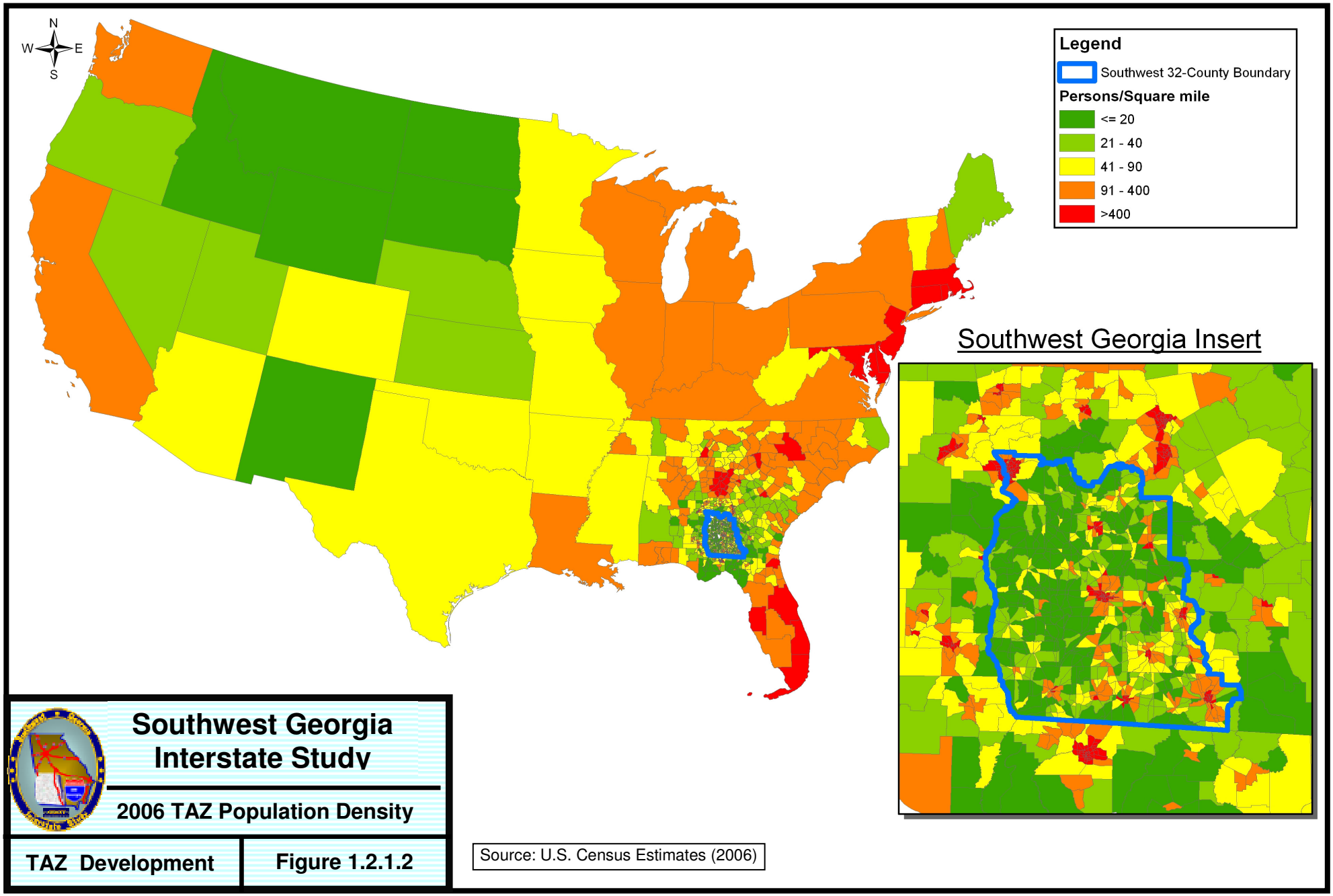


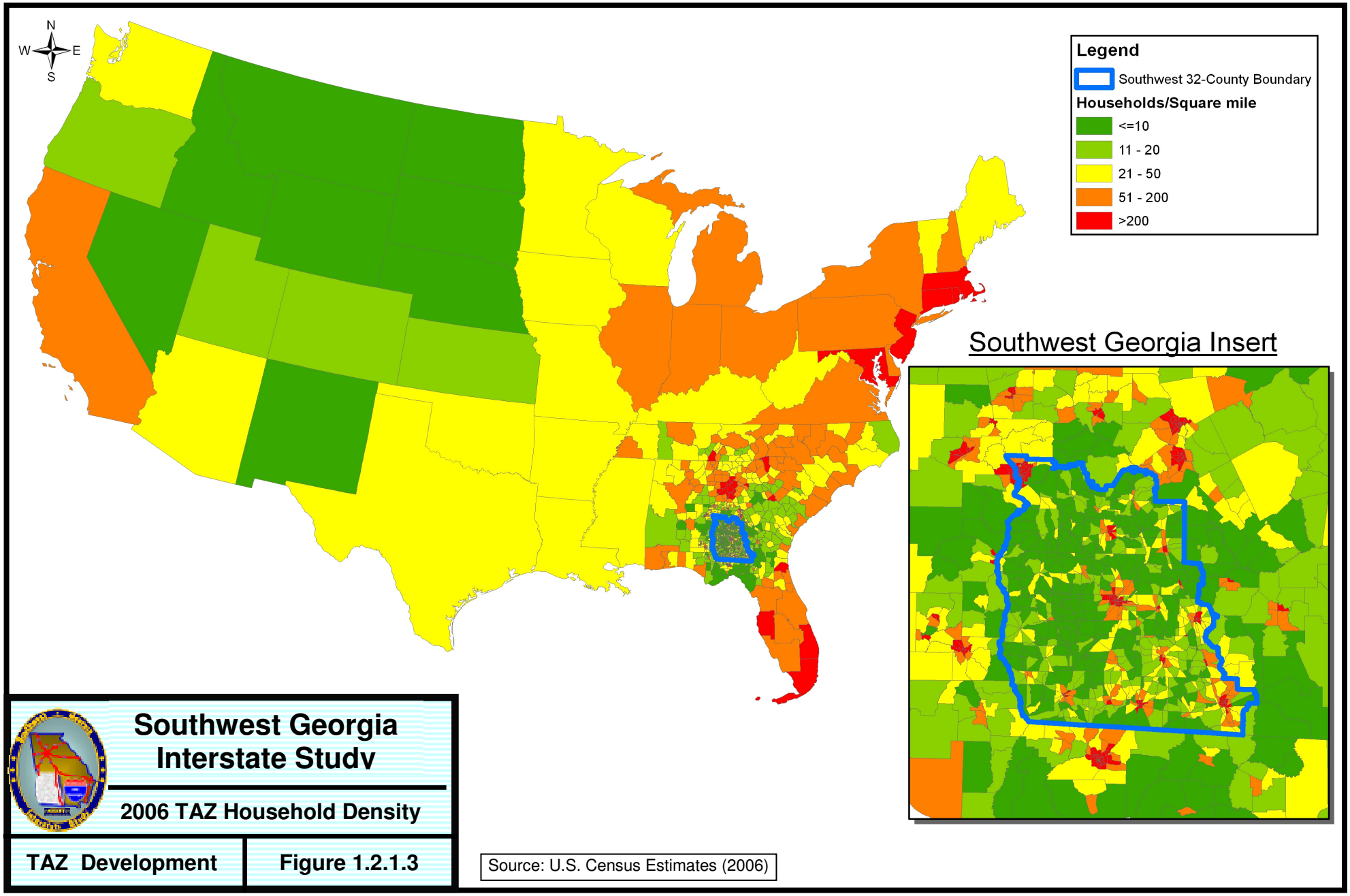
Source: U.S. Census (2000)

Southwest Georgia Interstate Study

Census Block Points & TAZs

TAZ Development	Figure 1.2.1.1


N
W
E
S
Legend
Southwest 32-County Boundary
Persons/Square mile
<= 20
21 - 40
41 - 90
91 - 400
>400
Southwest Georgia Insert
Southwest Georgia Interstate Study
2006 TAZ Population Density
TAZ Development
Figure 1.2.1.2
Source: U.S. Census Estimates (2006)



Southwest Georgia Interstate Study

2006 TAZ Household Density

TAZ Development	Figure 1.2.1.3

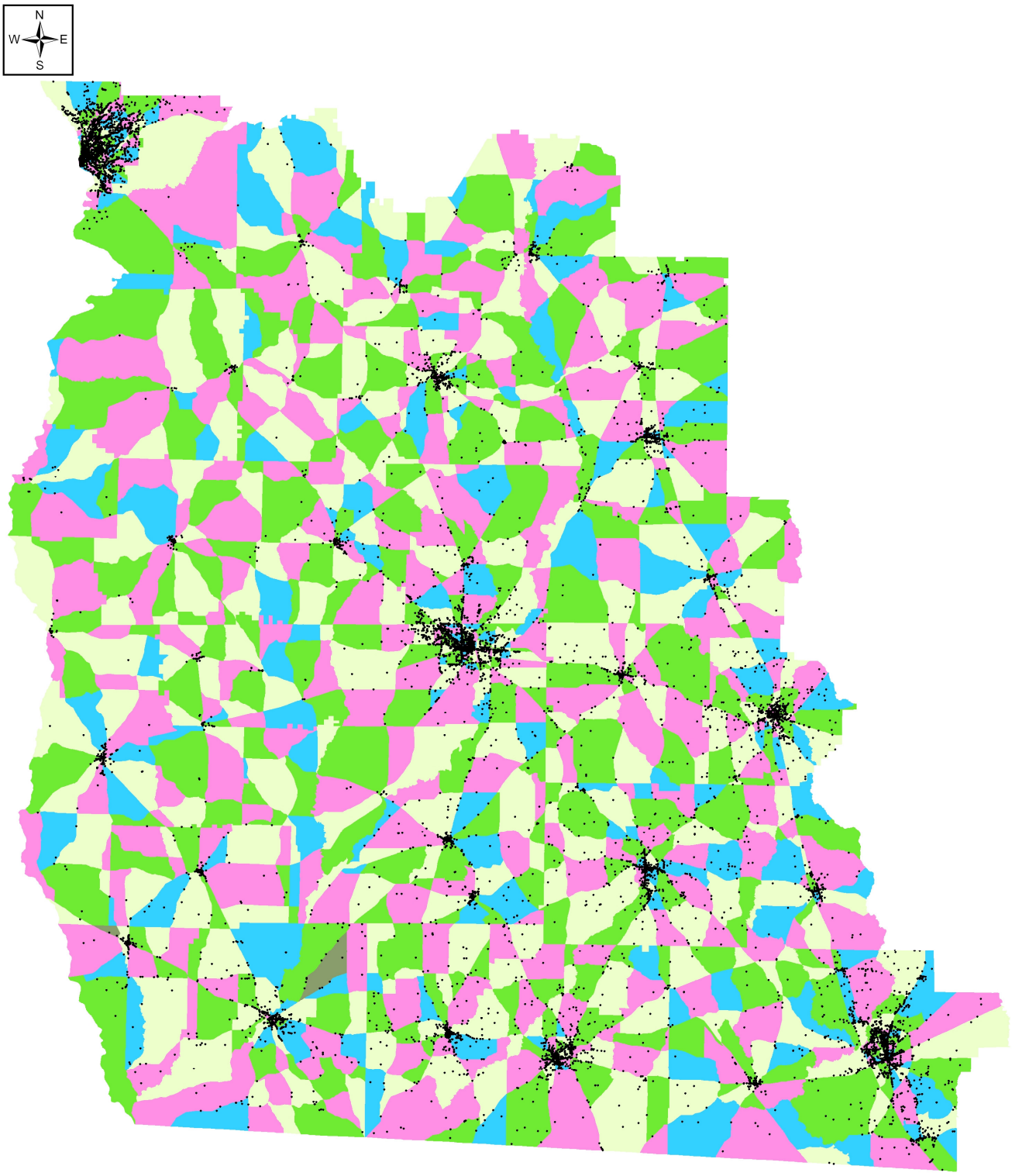
Source: U.S. Census Estimates (2006)

1.2.2 Employment Data

2006 employment data for the study area was provided by the Georgia Department of Labor (DOL) and the data for regions outside the southwest Georgia study area was collected from the Bureau of Economic Analysis (BEA). The allocation of the employment data was performed at different TAZ geographic levels similar to that used in the census data. The employment data includes the business address for employers throughout the study area. These addresses were used to geo-code in GIS the business location to the appropriate TAZ. The geo-coded employment data of the businesses was then summarized into the TAZ in which they are located. This process is similar to that used in allocating census block population and household data for TAZs within the study area. The geo-coded business locations are shown in Figure 1.2.2.1. As expected, the majority of the businesses are located inside or near the urbanized areas.

For the TAZs located in the surrounding Adjacent Census Tract buffer layer, the county level data needed to be disaggregated into census tract. The employment data for regions outside the study area was collected from the BEA and is only available at county level. The initial attempt at disaggregation was to use area shares of census tracts relative to the county where the census tracts are located. Consequently, the larger the census tract, the larger the number of employees were allocated to it. However, in urbanized areas, census tracts are usually smaller in size than those in the rural areas. This created a situation in which larger TAZs in the rural areas were assigned more employees than the smaller TAZs within or near the urbanized areas where businesses are naturally concentrated. Therefore, instead of using the area share as weighting factors to distribute the county control total, the inverse of the area share was used to establish the weighting factors. This method assigned a higher amount of employees to the smaller census tracts that are located within and near the urbanized areas and a lower amount to larger ones located in the rural areas.

Since the TAZs outside the Adjacent Census Tract buffer consists of at least one county, the allocation of employment data is directly adopted or aggregated. The RPC TAZs were assigned the aggregated employment data of the counties that belong to each RPC. The State employment estimates were assigned to State TAZs. The resulting allocation of the employment data is shown in Figure 1.2.2.2.



Source: Georgia Department of Labor (2006)

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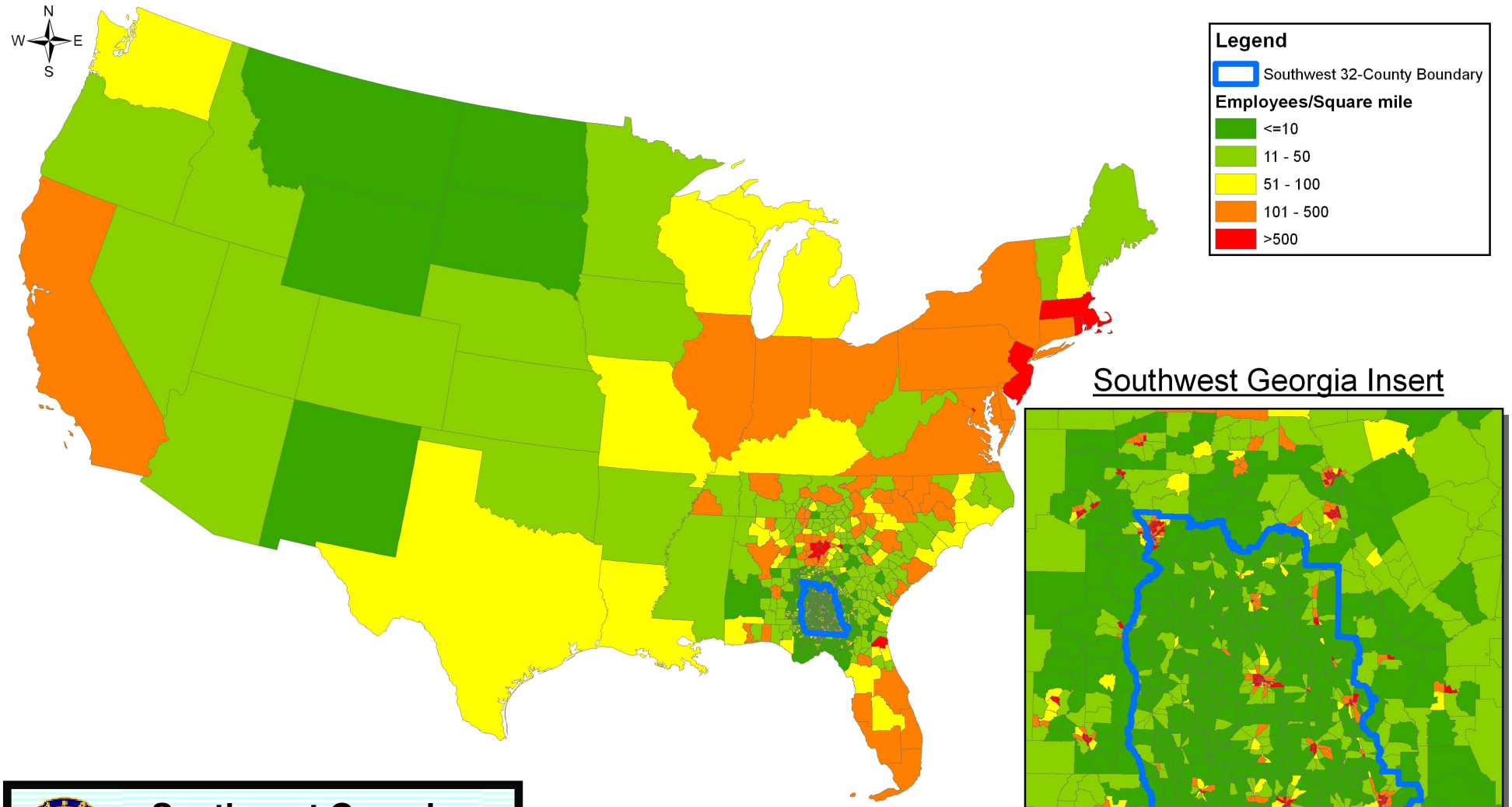
Employment Locations & TAZs

TAZ Development	Figure 1.2.2.1



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2006 TAZ Employment Density

TAZ Development	Figure 1.2.2.2

Source: Georgia Department of Labor (2006)